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 file medline wpids uspatfull
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=> e shau-chi chi/au
E1            1     SHAU Z/AU
E2            1     SHAU Z L/AU
E3            0 --> SHAU-CHI CHI/AU
E4            1     SHAUAKHANOV K SH/AU
E5            1     SHAUAN DANIEL D/AU
E6            3     SHAUB A/AU
E7            1     SHAUB G R/AU
E8           27     SHAUB H/AU
E9           29     SHAUB HAROLD/AU
E10           1     SHAUB HENRY Z/AU
E11           1     SHAUB IU B/AU
E12           1     SHAUB J/AU

=> e chi shau-chi/au
E1            1     CHI SHANNON/AU
E2            4     CHI SHAU CHI/AU
E3            0 --> CHI SHAU-CHI/AU
E4            1     CHI SHAW TSONG/AU
E5            3     CHI SHENG C/AU
E6            3     CHI SHENG CHEN/AU
E7            1     CHI SHENG HSIEH/AU
E8            1     CHI SHENG MING B/AU
E9            1     CHI SHIH FANG/AU
E10           1     CHI SHU CHENG/AU
E11           1     CHI SHUANG HUANG/AU
E12           1     CHI SHUN YU/AU

=> s e2
L1            4 "CHI SHAU CHI"/AU

=> d l1 1-4 bib

L1   ANSWER 1 OF 4  USPATFULL on STN
AN     2004:1844  USPATFULL
TI     Immortal cell line derived from grouper Epinephelus coioides and its
       applications therein
IN     Chi, Shau-Chi, Taipei, TAIWAN, PROVINCE OF CHINA
PI     US 2004001863      A1   20040101
AI     US 2001-4432       A1   20011206 (10)
RLI    Continuation-in-part of Ser. No. US 1999-450696, filed on 30 Nov 1999,
       GRANTED, Pat. No. US 6436702
PRAI   US 1998-110699P     19981203 (60)
DT     Utility
FS     APPLICATION
LREP   VENABLE, BAETJER, HOWARD AND CIVILETTI, LLP, P.O. BOX 34385, WASHINGTON,
       DC, 20043-9998
CLMN   Number of Claims: 14
ECL    Exemplary Claim: 1
DRWN   8 Drawing Page(s)
LN.CNT 952
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L1   ANSWER 2 OF 4  USPATFULL on STN
AN     2002:294744  USPATFULL
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TI Immortal cell line derived from grouper Epinephelus coioides and its applications therein
IN **Chi, Shau-Chi**, Taipei, TAIWAN, PROVINCE OF CHINA
PI US 2002164787 A1 20021107
US 6566117 B2 20030520
AI US 2001-998212 A1 20011203 (9)
RLI Division of Ser. No. US 1999-450696, filed on 30 Nov 1999, PENDING
PRAI US 1998-110699P 19981203 (60)
DT Utility
FS APPLICATION
LREP VENABLE, BAETJER, HOWARD AND CIVILETTI, LLP, P.O. BOX 34385, WASHINGTON, DC, 20043-9998
CLMN Number of Claims: 36
ECL Exemplary Claim: 1
DRWN 8 Drawing Page(s)
LN.CNT 872
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L1 ANSWER 3 OF 4 USPATFULL on STN
AN 2002:287134 USPATFULL
TI Immortal cell line derived from grouper epinephelus coioides and its applications therein
IN **Chi, Shau-Chi**, Taipei, TAIWAN, PROVINCE OF CHINA
PI US 2002159993 A1 20021031
AI US 2001-4414 A1 20011206 (10)
RLI Continuation-in-part of Ser. No. US 1999-450696, filed on 30 Nov 1999, PENDING
PRAI US 1998-110699P 19981203 (60)
DT Utility
FS APPLICATION
LREP VENABLE, BAETJER, HOWARD AND CIVILETTI, LLP, P.O. BOX 34385, WASHINGTON, DC, 20043-9998
CLMN Number of Claims: 25
ECL Exemplary Claim: 1
DRWN 8 Drawing Page(s)
LN.CNT 1074
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L1 ANSWER 4 OF 4 USPATFULL on STN
AN 2002:209358 USPATFULL
TI Immortal cell line derived from grouper Epinephelus coioides and its application therein
IN **Chi, Shau-Chi**, Taipei, TAIWAN, PROVINCE OF CHINA
PA National Science Council, Taipei, TAIWAN, PROVINCE OF CHINA (non-U.S. corporation)
PI US 6436702 B1 20020820
AI US 1999-450696 19991130 (9)
PRAI US 1998-110699P 19981203 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Scheiner, Laurie
LREP Chao, Fei-Fei, Venable, Baetjer, Howard & Civiletti, LLP
CLMN Number of Claims: 8
ECL Exemplary Claim: 1
DRWN 17 Drawing Figure(s); 10 Drawing Page(s)
LN.CNT 755
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> s (nervous necrosis virus or nnv)
L2 118 (NERVOUS NECROSIS VIRUS OR NNV)

=> s vaccine
L3 126113 VACCINE

=> s (subunit or attenuated)
L4 284031 (SUBUNIT OR ATTENUATED)

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=> s L2(P)L3(P)L4
L5            1 L2(P) L3(P) L4

=> d l5 bib ab

L5   ANSWER 1 OF 1  USPATFULL on STN
AN     2003:71540  USPATFULL
TI     Nervous necrosis virus protein
IN     Lin, Han-You, Taipei, TAIWAN, PROVINCE OF CHINA
       Kuo, Tsun-Yung, Taipei, TAIWAN, PROVINCE OF CHINA
       Huang, Hsiao-I, Arcadia, CA, UNITED STATES
       Yang, Huey-Lang, Tenafly, NJ, UNITED STATES
PI     US 2003049825      A1   20030313
       US 6777247         B2   20040817
AI     US 2001-867932     A1   20010530 (9)
DT     Utility
FS     APPLICATION
LREP   Y. ROCKY TSAO, FISH & RICHARDSON P.C., 225 Franklin Street, Boston, MA,
       02110-2804
CLMN   Number of Claims: 19
ECL    Exemplary Claim: 1
DRWN   4 Drawing Page(s)
LN.CNT 399
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB     The invention relates to a new RNA polymerase isolated from a Nervous
       Necrosis Virus.


=> s L2(P)L4
L6            1 L2(P) L4

=> s L2 and L3 and L4
L7           26 L2 AND L3 AND L4

=> d l7 1-26 bib ab

L7   ANSWER 1 OF 26  USPATFULL on STN
AN     2005:30707  USPATFULL
TI     Novel expression vectors and uses thereof
IN     Krohn, Kai, Salmentaka, FINLAND
       Blazevic, Vesna, Tampere, FINLAND
       Tahtinen, Marja, Tampere, FINLAND
       Ustav, Mart, Tartu, ESTONIA
       Toots, Urve, Tartu, ESTONIA
       Mannjk, Andres, Tartu, ESTONIA
       Ranki, Annamari, Helsinki, FINLAND
       Ustav, Ene, Tartu, ESTONIA
PI     US 2005026137      A1   20050203
AI     US 2003-476615     A1   20031103 (10)
       WO 2002-FI379           20020503
PRAI   FI 2001-922          20010503
       US 2002-10138098    20020503
DT     Utility
FS     APPLICATION
LREP   YOUNG & THOMPSON, 745 SOUTH 23RD STREET, 2ND FLOOR, ARLINGTON, VA, 22202
CLMN   Number of Claims: 80
ECL    Exemplary Claim: 1
DRWN   91 Drawing Page(s)
LN.CNT 6716
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB     The present invention relates to novel vectors, to DNA vaccines and gene
       therapeutics containing said vectors, to methods for the preparation of
       the vectors and DNA vaccines and gene therapeutics containing the
       vectors, and to therapeutic uses of said vectors. More specifically, the
       present invention relates to novel vectors comprising (a) an expression
       cassette of a gene of a nuclear-anchoring protein, which contains (i) a
       DNA binding domain capable of binding to a specific DNA sequence and
       (ii) a functional domain capable of binding to a nuclear component and
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(b) a multimerized DNA sequence forming a binding site for the anchoring protein, and optionally (c) one or more expression cassettes of a DNA sequence of interest. In particular the invention relates to vectors that lack a papilloma virus origin of replication. The nuclear-anchoring protein might be the E2 protein of Bovine Papilloma Virus type 1 or Epstein-Barr Virus Nuclear Antigen 1. The invention also relates to vectors that lack an origin of replication functional in a mammalian cell. The invention further relates to methods for expressing a DNA sequence of interest in a subject.

L7 ANSWER 2 OF 26 USPATFULL on STN
AN 2004:320927 USPATFULL
TI Infectious salmon anaemia virus **vaccine**
IN Villoing, Stephane, Bergen, NORWAY
Biering, Eirik, Bergen, NORWAY
PI US 2004253580 A1 20041216
AI US 2004-493208 A1 20040420 (10)
WO 2002-EP11552 20021016
PRAI EP 2001-203951 20011019
DT Utility
FS APPLICATION
LREP William M Blackstone, Intervet Inc, 405 State Street, Millsboro, DE, 19966
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN 2 Drawing Page(s)
LN.CNT 1043
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB This invention relates to Infectious Salmon Anaemia Virus (ISAV) antigenic polypeptides and nucleic acid molecules encoding them, as well as vaccines, transformed cells and transgenic fish. The antigenic polypeptides are able to elicit an immune response in immunized animals.

L7 ANSWER 3 OF 26 USPATFULL on STN
AN 2004:227056 USPATFULL
TI Immunization of fish with plant-expressed recombinant proteins
IN Bootland, Linda, Crapaud, CANADA
Beifuss, Katherine, Bryan, TX, UNITED STATES
PI US 2004175441 A1 20040909
AI US 2003-733031 A1 20031211 (10)
PRAI US 2002-433381P 20021213 (60)
DT Utility
FS APPLICATION
LREP Patricia A. Sweeney, 1835 Pleasant St., West Des Moines, IA, 50265-2334
CLMN Number of Claims: 23
ECL Exemplary Claim: 1
DRWN 15 Drawing Page(s)
LN.CNT 1310
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Plants are produced that express an amino acid sequence that, when administered to a fish, produce an antigenic or immune response in the fish. The amino acid sequence in one embodiment is an antigen from an organism that causes pathology in fish. The plant tissue may be fed to the fish, or mixed with other materials and fed to fish, or extracted and administered to the fish.

L7 ANSWER 4 OF 26 USPATFULL on STN
AN 2004:31067 USPATFULL
TI Method of recovering a nucleic acid encoding a proteinaceous binding domain which binds a target material
IN Ladner, Robert Charles, Ijamsville, MD, UNITED STATES
Guterman, Sonia Kosow, Belmont, MA, UNITED STATES
Roberts, Bruce Lindsay, Milford, MA, UNITED STATES
Markland, William, Milford, MA, UNITED STATES
Ley, Arthur Charles, Newton, MA, UNITED STATES
Kent, Rachel Baribault, Boxborough, MA, UNITED STATES
PI US 2004023205 A1 20040205
AI US 2002-126544 A1 20020422 (10)

RLI Continuation of Ser. No. US 1997-993776, filed on 18 Dec 1997, ABANDONED Continuation of Ser. No. US 1995-415922, filed on 3 Apr 1995, GRANTED, Pat. No. US 5837500 Continuation of Ser. No. US 1993-9319, filed on 26 Jan 1993, GRANTED, Pat. No. US 5403484 Division of Ser. No. US 1991-664989, filed on 1 Mar 1991, GRANTED, Pat. No. US 5223409 Continuation-in-part of Ser. No. US 1990-487063, filed on 2 Mar 1990, ABANDONED Continuation-in-part of Ser. No. US 1988-240160, filed on 2 Sep 1988, ABANDONED
PRAI WO 1989-US3731 19890901
DT Utility
FS APPLICATION
LREP BROWDY AND NEIMARK, P.L.L.C., 624 Ninth Street, N.W., Washington, DC, 20001
CLMN Number of Claims: 17
ECL Exemplary Claim: 1
DRWN 16 Drawing Page(s)
LN.CNT 15868
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB In order to obtain a novel binding protein against a chosen target, DNA molecules, each encoding a protein comprising one of a family of similar potential binding domains and a structural signal calling for the display of the protein on the outer surface of a chosen bacterial cell, bacterial spore or phage (genetic package) are introduced into a genetic package. The protein is expressed and the potential binding domain is displayed on the outer surface of the package. The cells or viruses bearing the binding domains which recognize the target molecule are isolated and amplified. The successful binding domains are then characterized. One or more of these successful binding domains is used as a model for the design of a new family of potential binding domains, and the process is repeated until a novel binding domain having a desired affinity for the target molecule is obtained. In one embodiment, the first family of potential binding domains is related to bovine pancreatic trypsin inhibitor, the genetic package is M13 phage, and the protein includes the outer surface transport signal of the M13 gene III protein.

L7 ANSWER 5 OF 26 USPATFULL on STN
AN 2004:7306 USPATFULL
TI Nucleic acids, genetic constructs, and library of nucleic acids encoding fusion proteins
IN Ladner, Robert Charles, Ijamsville, MD, UNITED STATES
Guterman, Sonia Kosow, Belmont, MA, UNITED STATES
Roberts, Bruce Lindsay, Milford, MA, UNITED STATES
Markland, William, Milford, MA, UNITED STATES
Ley, Arthur Charles, Newton, MA, UNITED STATES
Kent, Rachel Baribault, Boxborough, MA, UNITED STATES
PI US 2004005539 A1 20040108
AI US 2002-127028 A1 20020422 (10)
RLI Continuation of Ser. No. US 1997-993776, filed on 18 Dec 1997, ABANDONED Continuation of Ser. No. US 1995-415922, filed on 3 Apr 1995, GRANTED, Pat. No. US 5837500 Continuation of Ser. No. US 1993-9319, filed on 26 Jan 1993, GRANTED, Pat. No. US 5403484 Division of Ser. No. US 1991-664989, filed on 1 Mar 1991, GRANTED, Pat. No. US 5223409 Continuation-in-part of Ser. No. US 1990-487063, filed on 2 Mar 1990, ABANDONED Continuation-in-part of Ser. No. US 1988-240160, filed on 2 Sep 1988, ABANDONED
PRAI WO 1989-US3731 19890901
DT Utility
FS APPLICATION
LREP BROWDY AND NEIMARK, P.L.L.C., 624 Ninth Street, N.W., Washington, DC, 20001
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN 16 Drawing Page(s)
LN.CNT 16057
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB In order to obtain a novel binding protein against a chosen target, DNA molecules, each encoding a protein comprising one of a family of similar

potential binding domains and a structural signal calling for the display of the protein on the outer surface of a chosen bacterial cell, bacterial spore or phage (genetic package) are introduced into a genetic package. The protein is expressed and the potential binding domain is displayed on the outer surface of the package. The cells or viruses bearing the binding domains which recognize the target molecule are isolated and amplified. The successful binding domains are then characterized. One or more of these successful binding domains is used as a model for the design of a new family of potential binding domains, and the process is repeated until a novel binding domain having a desired affinity for the target molecule is obtained. In one embodiment, the first family of potential binding domains is related to bovine pancreatic trypsin inhibitor, the genetic package is M13 phage, and the protein includes the outer surface transport signal of the M13 gene III protein.

L7 ANSWER 6 OF 26 USPATFULL on STN
AN 2004:1844 USPATFULL
TI Immortal cell line derived from grouper Epinephelus coioides and its applications therein
IN Chi, Shau-Chi, Taipei, TAIWAN, PROVINCE OF CHINA
PI US 2004001863 A1 20040101
AI US 2001-4432 A1 20011206 (10)
RLI Continuation-in-part of Ser. No. US 1999-450696, filed on 30 Nov 1999, GRANTED, Pat. No. US 6436702
PRAI US 1998-110699P 19981203 (60)
DT Utility
FS APPLICATION
LREP VENABLE, BAETJER, HOWARD AND CIVILETTI, LLP, P.O. BOX 34385, WASHINGTON, DC, 20043-9998
CLMN Number of Claims: 14
ECL Exemplary Claim: 1
DRWN 8 Drawing Page(s)
LN.CNT 952
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention provides for fish vaccines and methods of using the fish vaccines to immunize susceptible fish against viral infections. In particular, the present invention is directed to vaccines and methods of immunizing susceptible fish for two aqua-viral diseases, the viral nervous necrosis (VNN) disease which is caused by **nervous necrosis virus** (**NNV**), and infectious pancreatic necrosis (IPN) disease which is caused by infectious pancreatic necrosis virus (IPNV). The vaccines are produced by inactivated viruses which in turn were produced from treatment of viruses that are mass-produced in an immortal cell line derived from Epinephelus coioides having an ATCC deposit number of PTA-859.

L7 ANSWER 7 OF 26 USPATFULL on STN
AN 2003:312289 USPATFULL
TI Directed evolution of novel binding proteins
IN Ladner, Robert Charles, Ijamsville, MD, UNITED STATES
Guterman, Sonia Kosow, Belmont, MA, UNITED STATES
Roberts, Bruce Lindsay, Milford, MA, UNITED STATES
Markland, William, Milford, MA, UNITED STATES
Ley, Arthur Charles, Newton, MA, UNITED STATES
Kent, Rachel Baribault, Boxborough, MA, UNITED STATES
PI US 2003219886 A1 20031127
AI US 2001-896095 A1 20010629 (9)
RLI Continuation of Ser. No. US 1997-993776, filed on 18 Dec 1997, PENDING Continuation of Ser. No. US 1995-415922, filed on 3 Apr 1995, GRANTED, Pat. No. US 5837500 Continuation of Ser. No. US 1993-9319, filed on 26 Jan 1993, GRANTED, Pat. No. US 5403484 Division of Ser. No. US 1991-664989, filed on 1 Mar 1991, GRANTED, Pat. No. US 5223409 Continuation-in-part of Ser. No. US 1990-487063, filed on 2 Mar 1990, ABANDONED Continuation-in-part of Ser. No. US 1988-240160, filed on 2 Sep 1988, ABANDONED
PRAI WO 1989-US3731 19890901
DT Utility

FS APPLICATION
LREP BROWDY AND NEIMARK, P.L.L.C., 624 Ninth Street, N.W., Washington, DC, 20001
CLMN Number of Claims: 100
ECL Exemplary Claim: 1
DRWN 16 Drawing Page(s)
LN.CNT 15529
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB In order to obtain a novel binding protein against a chosen target, DNA molecules, each encoding a protein comprising one of a family of similar potential binding domains and a structural signal calling for the display of the protein on the outer surface of a chosen bacterial cell, bacterial spore or phage (genetic package) are introduced into a genetic package. The protein is expressed and the potential binding domain is displayed on the outer surface of the package. The cells or viruses bearing the binding domains which recognize the target molecule are isolated and amplified. The successful binding domains are then characterized. One or more of these successful binding domains is used as a model for the design of a new family of potential binding domains, and the process is repeated until a novel binding domain having a desired affinity for the target molecule is obtained. In one embodiment, the first family of potential binding domains is related to bovine pancreatic trypsin inhibitor, the genetic package is M13 phage, and the protein includes the outer surface transport signal of the M13 gene III protein.

L7 ANSWER 8 OF 26 USPATFULL on STN
AN 2003:312125 USPATFULL
TI Fusion proteins, modified filamentous bacteriophage, and populations or libraries of same
IN Ladner, Robert Charles, Ijamsville, MD, UNITED STATES
Guterman, Sonia Kosow, Belmont, MA, UNITED STATES
Roberts, Bruce Lindsay, Milford, MA, UNITED STATES
Markland, William, Milford, MA, UNITED STATES
Ley, Arthur Charles, Newton, MA, UNITED STATES
Kent, Rachel Baribault, Boxborough, MA, UNITED STATES
PI US 2003219722 A1 20031127
AI US 2002-126685 A1 20020422 (10)
RLI Continuation of Ser. No. US 1997-993776, filed on 18 Dec 1997, PENDING Continuation of Ser. No. US 1995-415922, filed on 3 Apr 1995, GRANTED, Pat. No. US 5837500 Continuation of Ser. No. US 1993-9319, filed on 26 Jan 1993, GRANTED, Pat. No. US 5403484 Division of Ser. No. US 1991-664989, filed on 1 Mar 1991, GRANTED, Pat. No. US 5223409 Continuation-in-part of Ser. No. US 1990-487063, filed on 2 Mar 1990, ABANDONED Continuation-in-part of Ser. No. US 1988-240160, filed on 2 Sep 1988, ABANDONED
PRAI WO 1989-US3731 19890901
DT Utility
FS APPLICATION
LREP BROWDY AND NEIMARK, P.L.L.C., 624 Ninth Street, N.W., Washington, DC, 20001
CLMN Number of Claims: 38
ECL Exemplary Claim: 1
DRWN 16 Drawing Page(s)
LN.CNT 16459
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB In order to obtain a novel binding protein against a chosen target, DNA molecules, each encoding a protein comprising one of a family of similar potential binding domains and a structural signal calling for the display of the protein on the outer surface of a chosen bacterial cell, bacterial spore or phage (genetic package) are introduced into a genetic package. The protein is expressed and the potential binding domain is displayed on the outer surface of the package. The cells or viruses bearing the binding domains which recognize the target molecule are isolated and amplified. The successful binding domains are then characterized. One or more of these successful binding domains is used as a model for the design of a new family of potential binding domains, and the process is repeated until a novel binding domain having a

desired affinity for the target molecule is obtained. In one embodiment, the first family of potential binding domains is related to bovine pancreatic trypsin inhibitor, the genetic package is M13 phage, and the protein includes the outer surface transport signal of the M13 gene III protein.

L7 ANSWER 9 OF 26 USPATFULL on STN
AN 2003:225319 USPATFULL
TI Modified nodavirus rna for gene delivery
IN Bensi, Giuliano, Florence, ITALY
Zippo, Alessio, Bologna, ITALY
PI US 2003157130 A1 20030821
AI US 2003-221993 A1 20030107 (10)
WO 2001-IB566 20010326
PRAI GB 2000-7231 20000324
DT Utility
FS APPLICATION
LREP Alisa A Harbin, Chiron Corporation, Intellectual Property R440, PO Box 8097, Emeryville, CA, 94662-8097
CLMN Number of Claims: 29
ECL Exemplary Claim: 1
DRWN 26 Drawing Page(s)
LN.CNT 1069
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention provides a nodavirus RNA1 molecule modified to include a heterologous insertion which is downstream of its replicase ORF and, preferably, its B2 ORF. The insertion preferably comprises one or more protein-coding regions. The modified RNA1 may be packaged in a VLP, such as a papillomavirus VLP. The small size of nodavirus RNA1 makes it ideal for HPV packaging.

L7 ANSWER 10 OF 26 USPATFULL on STN
AN 2003:187383 USPATFULL
TI Novel expression vectors and uses thereof
IN Krohn, Kai, Salmentaka, FINLAND
Blazevic, Vesna, Tampere, FINLAND
Tahtinen, Marja, Tampere, FINLAND
Ustav, Mart, Tartu, ESTONIA
Toots, Urve, Tartu, ESTONIA
Mannik, Andres, Tartu, ESTONIA
Ranki, Annamari, Helsinki, FINLAND
Ustav, Ene, Tartu, ESTONIA
PI US 2003129169 A1 20030710
AI US 2002-138098 A1 20020503 (10)
PRAI FI 2001-922 20010503
DT Utility
FS APPLICATION
LREP PENNIE AND EDMONDS, 1155 AVENUE OF THE AMERICAS, NEW YORK, NY, 100362711
CLMN Number of Claims: 80
ECL Exemplary Claim: 1
DRWN 100 Drawing Page(s)
LN.CNT 6888
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to novel vectors, to DNA vaccines and gene therapeutics containing said vectors, to methods for the preparation of the vectors and DNA vaccines and gene therapeutics, and to therapeutic uses of said vectors. More specifically, the present invention relates to novel vectors comprising an expression cassette of a gene of a nuclear-anchoring protein, which contains a DNA binding domain capable of binding to a specific DNA sequence and a functional domain capable of binding to a nuclear component and a multimerized DNA sequence forming a binding site for the nuclear-anchoring protein, and optionally an expression cassette of a gene, genes or a DNA sequence or DNA sequences of interest. The present invention further relates to DNA vaccines and gene therapeutics containing the novel vectors, to methods for the preparation of the novel vectors and the DNA vaccines and gene therapeutics containing the novel vectors, and to the use the vectors in therapy.

L7 ANSWER 11 OF 26 USPATFULL on STN
AN 2003:165862 USPATFULL
TI Directed evolution of novel binding proteins
IN Ladner, Robert Charles, Ijamsville, MD, UNITED STATES
Guterman, Sonia Kosow, Belmont, MA, UNITED STATES
Roberts, Bruce Lindsay, Milford, MA, UNITED STATES
Markland, William, Milford, MA, UNITED STATES
Ley, Arthur Charles, Newton, MA, UNITED STATES
Kent, Rachel Baribault, Boxborough, MA, UNITED STATES
PI US 2003113717 A1 20030619
AI US 2001-893878 A1 20010629 (9)
RLI Continuation of Ser. No. US 1997-993776, filed on 18 Dec 1997, PENDING
Continuation of Ser. No. US 1995-415922, filed on 3 Apr 1995, PATENTED
Continuation of Ser. No. US 1993-9319, filed on 26 Jan 1993, PATENTED
Division of Ser. No. US 1991-664989, filed on 1 Mar 1991, PATENTED
Continuation-in-part of Ser. No. US 1990-487063, filed on 2 Mar 1990, ABANDONED Continuation-in-part of Ser. No. US 1988-240160, filed on 2 Sep 1988, ABANDONED
PRAI WO 1989-US3731 19890901
DT Utility
FS APPLICATION
LREP BROWDY AND NEIMARK, P.L.L.C., 624 Ninth Street, N.W., Washington, DC, 20001
CLMN Number of Claims: 25
ECL Exemplary Claim: 1
DRWN 16 Drawing Page(s)
LN.CNT 15933
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB In order to obtain a novel binding protein against a chosen target, DNA molecules, each encoding a protein comprising one of a family of similar potential binding domains and a structural-signal calling for the display of the protein on the outer surface of a chosen bacterial cell, bacterial spore or phage (genetic package) are introduced into a genetic package. The protein is expressed and the potential binding domain is displayed on the outer surface of the package. The cells or viruses bearing the binding domains which recognize the target molecule are isolated and amplified. The successful binding domains are then characterized. One or more of these successful binding domains is used as a model for the design of a new family of potential binding domains, and the process is repeated until a novel binding domain having a desired affinity for the target molecule is obtained. In one embodiment, the first family of potential binding domains is related to bovine pancreatic trypsin inhibitor, the genetic package is M13 phage, and the protein includes the outer surface transport signal of the M13 gene III protein.

L7 ANSWER 12 OF 26 USPATFULL on STN
AN 2003:71540 USPATFULL
TI **Nervous necrosis virus** protein
IN Lin, Han-You, Taipei, TAIWAN, PROVINCE OF CHINA
Kuo, Tsun-Yung, Taipei, TAIWAN, PROVINCE OF CHINA
Huang, Hsiao-I, Arcadia, CA, UNITED STATES
Yang, Huey-Lang, Tenafly, NJ, UNITED STATES
PI US 2003049825 A1 20030313
US 6777247 B2 20040817
AI US 2001-867932 A1 20010530 (9)
DT Utility
FS APPLICATION
LREP Y. ROCKY TSAO, FISH & RICHARDSON P.C., 225 Franklin Street, Boston, MA, 02110-2804
CLMN Number of Claims: 19
ECL Exemplary Claim: 1
DRWN 4 Drawing Page(s)
LN.CNT 399
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to a new RNA polymerase isolated from a **Nervous Necrosis Virus**.

L7 ANSWER 13 OF 26 USPATFULL on STN
AN 2002:272761 USPATFULL
TI Directed evolution of novel binding proteins
IN Ladner, Robert Charles, Ijamsville, MD, UNITED STATES
Guterman, Sonia Kosow, Belmont, MA, UNITED STATES
Roberts, Bruce Lindsay, Milford, MA, UNITED STATES
Markland, William, Milford, MA, UNITED STATES
Ley, Arthur Charles, Newton, MA, UNITED STATES
Kent, Rachel Baribault, Boxborough, MA, UNITED STATES
PI US 2002150881 A1 20021017
AI US 2001-781988 A1 20010214 (9)
RLI Continuation of Ser. No. US 1998-192067, filed on 16 Nov 1998, ABANDONED Continuation of Ser. No. US 1995-415922, filed on 3 Apr 1995, PATENTED Continuation of Ser. No. US 1993-9319, filed on 26 Jan 1993, PATENTED Division of Ser. No. US 1991-664989, filed on 1 Mar 1991, PATENTED Continuation-in-part of Ser. No. US 1990-487063, filed on 2 Mar 1990, ABANDONED Continuation-in-part of Ser. No. US 1988-240160, filed on 2 Sep 1988, ABANDONED
PRAI WO 1989-US3731 19890901
DT Utility
FS APPLICATION
LREP BROWDY AND NEIMARK, P.L.L.C., 624 Ninth Street, N.W., Washington, DC, 20001
CLMN Number of Claims: 18
ECL Exemplary Claim: 1
DRWN 16 Drawing Page(s)
LN.CNT 15696
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB In order to obtain a novel binding protein against a chosen target, DNA molecules, each encoding a protein comprising one of a family of similar potential binding domains and a structural signal calling for the display of the protein on the outer surface of a chosen bacterial cell, bacterial spore or phage (genetic package) are introduced into a genetic package. The protein is expressed and the potential binding domain is displayed on the outer surface of the package. The cells or viruses bearing the binding domains which recognize the target molecule are isolated and amplified. The successful binding domains are then characterized. One or more of these successful binding domains is used as a model for the design of a new family of potential binding domains, and the process is repeated until a novel binding domain having a desired affinity for the target molecule is obtained. In one embodiment, the first family of potential binding domains is related to bovine pancreatic trypsin inhibitor, the genetic package is M13 phage, and the protein includes the outer surface transport signal of the M13 gene III protein.

L7 ANSWER 14 OF 26 USPATFULL on STN
AN 2001:105334 USPATFULL
TI DELIVERY OF NUCLEIC ACID INTO AQUATIC ANIMALS
IN POET, STEVEN E., WINTERVILLE, GA, United States
BURNLEY, VICTORIA VAUGHN, ATHENS, GA, United States
PI US 2001006953 A1 20010705
US 6462027 B2 20021008
AI US 1999-347959 A1 19990706 (9)
PRAI US 1998-91820P 19980706 (60)
DT Utility
FS APPLICATION
LREP SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.O. BOX 2938, MINNEAPOLIS, MN, 55402
CLMN Number of Claims: 48
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 1265
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Disclosed are methods for delivering a preselected polypeptide into an aquatic animal by contacting the aquatic animal with an aqueous medium containing an isolated non-infectious, non-integrating polynucleotide

encoding an immunogen, wherein the polynucleotide is operably linked to a promoter that controls the expression of the polynucleotide in the aquatic animal, and wherein expression of the polypeptide stimulates a detectable biological response in the animal. Also disclosed are methods for delivering a desired polynucleotide into an aquatic animal comprising contacting the aquatic animal with an aquatic medium containing an isolated non-infectious, non-integrating polynucleotide, wherein the polynucleotide is substantially complementary to all or a portion of a messenger RNA (mRNA) encoding a preselected polypeptide, and wherein expression of the polypeptide stimulates or represses a detectable biological response in the animal. Methods are further disclosed for delivering a preselected polynucleotide into an aquatic animal comprising contacting the aquatic animal with an aqueous medium containing an isolated non-infectious, non-integrating polynucleotide that is not in contact with a liposome or lipid carrier, wherein the polynucleotide stimulates a detectable biological response in the animal.

L7 ANSWER 15 OF 26 USPATFULL on STN
AN 2001:14470 USPATFULL
TI DNA based vaccination of fish
IN Davis, Heather L., Ottawa, Canada
PA Loeb Health Research Institute at The Ottawa Hospital, Ottawa, Canada (non-U.S. corporation)
PI US 6180614 B1 20010130
AI US 1998-115423 19980714 (9)
RLI Continuation of Ser. No. US 1996-740805, filed on 4 Nov 1996, now patented, Pat. No. US 5780448, issued on 14 Jul 1998
PRAI US 1995-6290P 19951107 (60)
DT Utility
FS Granted
EXNAM Primary Examiner: Salimi, Ali R.
LREP Yankwich, Leon R., O'Obrien, David G.
CLMN Number of Claims: 84
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 1280
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to methods of immunization of aquaculture species by introducing DNA expression systems into the aquaculture species. Such DNA expression systems preferably include DNA sequences encoding polypeptides of pathogens of species of aquaculture. The present invention also relates to methods of administration of DNA expression systems into aquaculture. Such methods include injection, spray, and immersion techniques. The methods of this invention are useful for prophylactic vaccination or therapeutic immunization of fin-fish, shellfish, or other aquatic animals against infectious diseases.

L7 ANSWER 16 OF 26 USPATFULL on STN
AN 1999:106313 USPATFULL
TI Totally Synthetic Affinity Reagents
IN Kay, Brian K, Chapel Hill, NC, United States
Fowlkes, Dana M., Chapel Hill, NC, United States
Adey, Nils B., Carrboro, NC, United States
Sparks, Andrew B., Carrboro, NC, United States
PA University of North Carolina at Chapel Hill, Chapel Hill, NC, United States (U.S. corporation)
PI US 5948635 19990907
AI US 1995-471068 19950606 (8)
RLI Division of Ser. No. US 1994-189331, filed on 31 Jan 1994, now patented, Pat. No. US 5747334 which is a continuation-in-part of Ser. No. US 1993-176500, filed on 30 Dec 1993, now patented, Pat. No. US 5498538 which is a continuation of Ser. No. US 1993-13416, filed on 1 Feb 1993, now abandoned which is a continuation-in-part of Ser. No. US 1992-854133, filed on 19 Mar 1992, now abandoned which is a continuation of Ser. No. US 1990-480420, filed on 15 Feb 1990, now abandoned
DT Utility

FS Granted
EXNAM Primary Examiner: Mertz, Prema
LREP Morgan & Finnegan, LLP
CLMN Number of Claims: 39
ECL Exemplary Claim: 1
DRWN 27 Drawing Figure(s); 26 Drawing Page(s)
LN.CNT 6546
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A novel method for producing novel and/or improved heterofunctional binding fusion proteins termed Totally Synthetic Affinity Reagents (TSARs) is disclosed. TSARs are concatenated heterofunctional proteins, polypeptides or peptides comprising at least two functional regions: a binding domain with affinity for a ligand and a second effector peptide portion that is chemically or biologically active. In one embodiment, the heterofunctional proteins, polypeptides or peptides further comprise a linker peptide portion between the binding domain and the second active peptide portion. The linker peptide can be either susceptible or not susceptible to cleavage by enzymatic or chemical means. Novel and/or improved heterofunctional binding reagents as well as methods for using the reagents for a variety of in vitro and in vivo applications are also disclosed.

L7 ANSWER 17 OF 26 USPATFULL on STN
AN 1998:160097 USPATFULL
TI Totally synthetic affinity reagents
IN Kay, Brian K., Chapel Hill, NC, United States
Adey, Nils B., Salt Lake City, UT, United States
PA The University of North Carolina at Chapel Hill, Chapel Hill, NC, United States (U.S. corporation)
PI US 5852167 19981222
AI US 1995-471800 19950606 (8)
RLI Division of Ser. No. US 1993-176500, filed on 30 Dec 1993, now patented, Pat. No. US 5498538 which is a continuation of Ser. No. US 1993-13416, filed on 1 Feb 1993, now abandoned which is a continuation-in-part of Ser. No. US 1992-854133, filed on 19 Mar 1992, now abandoned which is a continuation of Ser. No. US 1990-480420, filed on 15 Feb 1990, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Walsh, Stephen; Assistant Examiner: Sorensen, Kenneth A.
LREP Morgan & Finnegan, L.L.P.
CLMN Number of Claims: 3
ECL Exemplary Claim: 1
DRWN 26 Drawing Figure(s); 20 Drawing Page(s)
LN.CNT 5029
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A novel method for producing novel and/or improved heterofunctional binding fusion proteins termed Totally Synthetic Affinity Reagents (TSARs) is disclosed. TSARs are concatenated heterofunctional proteins, polypeptides or peptides comprising at least two functional regions: a binding domain with affinity for a ligand and a second effector peptide portion that is chemically or biologically active. In one embodiment, the heterofunctional proteins, polypeptides or peptides further comprise a linker peptide portion between the binding domain and the second active peptide portion. The linker peptide can be either susceptible or not susceptible to cleavage by enzymatic or chemical means. Novel and/or improved heterofunctional binding reagents as well as methods for using the reagents for a variety of in vitro and in vivo applications are also disclosed.

L7 ANSWER 18 OF 26 USPATFULL on STN
AN 1998:151075 USPATFULL
TI Totally synthetic affinity reagents
IN Kay, Brian K., Chapel Hill, NC, United States
Fowlkes, Dana M., Chapel Hill, NC, United States
PA The University of North Carolina at Chapel Hill, Chapel Hill, NC, United States (U.S. corporation)

PI US 5844076 19981201
AI US 1995-471939 19950606 (8)
RLI Division of Ser. No. US 1993-176500, filed on 30 Dec 1993, now patented, Pat. No. US 5498538 which is a continuation of Ser. No. US 1993-13416, filed on 1 Feb 1993, now abandoned which is a continuation-in-part of Ser. No. US 1992-854133, filed on 19 Mar 1992, now abandoned which is a continuation of Ser. No. US 1990-480420, filed on 15 Feb 1990, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Tsang, Cecilia J.; Assistant Examiner: Celsa, Bennett
LREP Pennie & Edmonds LLP
CLMN Number of Claims: 3
ECL Exemplary Claim: 1
DRWN 26 Drawing Figure(s); 20 Drawing Page(s)
LN.CNT 5069
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method for producing heterofunctional binding fusion proteins termed Totally Synthetic Affinity Reagents (TSARs) is disclosed. TSARs are concatenated heterofunctional proteins, polypeptides or peptides comprising at least two functional regions: a binding domain with affinity for a ligand and a second effector peptide portion that is chemically or biologically active. In one embodiment, the heterofunctional proteins, polypeptides or peptides further comprise a linker peptide portion between the binding domain and the second active peptide portion. The linker peptide can be either susceptible or not susceptible to cleavage by enzymatic or chemical means. Heterofunctional binding reagents as well as methods for using the reagents for a variety of in vitro and in vivo applications are also disclosed.

L7 ANSWER 19 OF 26 USPATFULL on STN
AN 1998:143904 USPATFULL
TI Directed evolution of novel binding proteins
IN Ladner, Robert Charles, Ijamsville, MD, United States
Gutterman, Sonia Kosow, Belmont, MA, United States
Roberts, Bruce Lindsay, Milford, MA, United States
Markland, William, Milford, MA, United States
Ley, Arthur Charles, Newton, MA, United States
Kent, Rachel Baribault, Boxborough, MA, United States
PA Dyax, Corp., Cambridge, MA, United States (U.S. corporation)
PI US 5837500 19981117
AI US 1995-415922 19950403 (8)
RLI Continuation of Ser. No. US 1993-9319, filed on 26 Jan 1993, now patented, Pat. No. US 5403484 which is a division of Ser. No. US 1991-664989, filed on 1 Mar 1991, now patented, Pat. No. US 5223409 which is a continuation-in-part of Ser. No. US 1990-487063, filed on 2 Mar 1990, now abandoned which is a continuation-in-part of Ser. No. US 1988-240160, filed on 2 Sep 1988, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Ulm, John
LREP Cooper, Iver P.
CLMN Number of Claims: 43
ECL Exemplary Claim: 1
DRWN 16 Drawing Figure(s); 16 Drawing Page(s)
LN.CNT 15973
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB In order to obtain a novel binding protein against a chosen target, DNA molecules, each encoding a protein comprising one of a family of similar potential binding domains and a structural signal calling for the display of the protein on the outer surface of a chosen bacterial cell, bacterial spore or phage (genetic package) are introduced into a genetic package. The protein is expressed and the potential binding domain is displayed on the outer surface of the package. The cells or viruses bearing the binding domains which recognize the target molecule are isolated and amplified. The successful binding domains are then characterized. One or more of these successful binding domains is used as a model for the design of a new family of potential binding domains,

and the process is repeated until a novel binding domain having a desired affinity for the target molecule is obtained. In one embodiment, the first family of potential binding domains is related to bovine pancreatic trypsin inhibitor, the genetic package is M13 phage, and the protein includes the outer surface transport signal of the M13 gene III protein.

L7 ANSWER 20 OF 26 USPATFULL on STN
AN 1998:82736 USPATFULL
TI DNA-based vaccination of fish
IN Davis, Heather L., Ottawa, Canada
PA Ottawa Civic Hospital Loeb Research, Ottawa, Canada (non-U.S. corporation)
PI US 5780448 19980714
AI US 1996-740805 19961104 (8)
PRAI US 1995-6290P 19951107 (60)
DT Utility
FS Granted
EXNAM Primary Examiner: Mosher, Mary E.; Assistant Examiner: Salimi, Ali R.
LREP Fish & Richardson, P.C.
CLMN Number of Claims: 83
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 1309
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to methods of immunization of aquaculture species by introducing DNA expression systems into the aquaculture species. Such DNA expression systems preferably include DNA sequences encoding polypeptides of pathogens of species of aquaculture. The present invention also relates to methods of administration of DNA expression systems into aquaculture. Such methods include injection, spray, and immersion techniques. The methods of this invention are useful for prophylactic vaccination or therapeutic immunization of fin-fish, shellfish, or other aquatic animals against infectious diseases.

L7 ANSWER 21 OF 26 USPATFULL on STN
AN 1998:48252 USPATFULL
TI Random peptide library
IN Kay, Brian K, Chapel Hill, NC, United States
Fowlkes, Dana M., Chapel Hill, NC, United States
Adey, Nils B., Carrboro, NC, United States
Sparks, Andrew B., Carrboro, NC, United States
PA The University of North Carolina at Chapel Hill, Chapel Hill, NC, United States (U.S. corporation)
PI US 5747334 19980505
AI US 1994-189331 19940131 (8)
RLI Continuation-in-part of Ser. No. US 1993-176500, filed on 30 Dec 1993, now patented, Pat. No. US 5498538 which is a continuation of Ser. No. US 1993-13416, filed on 1 Feb 1993, now abandoned which is a continuation-in-part of Ser. No. US 1992-854133, filed on 19 Mar 1992, now abandoned which is a continuation of Ser. No. US 1990-480420, filed on 15 Feb 1990, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Ulm, John
LREP Pennie & Edmonds LLP
CLMN Number of Claims: 13
ECL Exemplary Claim: 1
DRWN 33 Drawing Figure(s); 26 Drawing Page(s)
LN.CNT 5554
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A novel method for producing novel and/or improved heterofunctional binding fusion proteins termed Totally Synthetic Affinity Reagents (TSARs) is disclosed. TSARs are concatenated heterofunctional proteins, polypeptides or peptides comprising at least two functional regions: a binding domain with affinity for a ligand and a second effector peptide portion that is chemically or biologically active. In one embodiment,

the heterofunctional proteins, polypeptides or peptides further comprise a linker peptide portion between the binding domain and the second active peptide portion. The linker peptide can be either susceptible or not susceptible to cleavage by enzymatic or chemical means. Novel and/or improved heterofunctional binding reagents as well as methods for using the reagents for a variety of in vitro and in vivo applications are also disclosed.

L7 ANSWER 22 OF 26 USPATFULL on STN
AN 97:36293 USPATFULL
TI Totally synthetic affinity reagents
IN Kay, Brian K., Chapel Hill, NC, United States
Fowlkes, Dana M., Chapel Hill, NC, United States
PA The University of North Carolina at Chapel Hill, Chapel Hill, NC, United States (U.S. corporation)
PI US 5625033 19970429
AI US 1995-471052 19950606 (8)
RLI Division of Ser. No. US 1993-176500, filed on 30 Dec 1993, now patented, Pat. No. US 5498538 which is a continuation of Ser. No. US 1993-13416, filed on 1 Feb 1993, now abandoned which is a continuation-in-part of Ser. No. US 1992-854133, filed on 19 Mar 1992, now abandoned which is a continuation of Ser. No. US 1990-480420, filed on 15 Feb 1990, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Walsh, Stephen G.; Assistant Examiner: Sorensen, Ken
LREP Pennie & Edmonds
CLMN Number of Claims: 1
ECL Exemplary Claim: 1
DRWN 26 Drawing Figure(s); 21 Drawing Page(s)
LN.CNT 4716
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A novel method for producing novel and/or improved heterofunctional binding fusion proteins termed Totally Synthetic Affinity Reagents (TSARs) is disclosed. TSARs are concatenated heterofunctional proteins, polypeptides or peptides comprising at least two functional regions: a binding domain with affinity for a ligand and a second effector peptide portion that is chemically or biologically active. In one embodiment, the heterofunctional proteins, polypeptides or peptides further comprise a linker peptide portion between the binding domain and the second active peptide portion. The linker peptide can be either susceptible or not susceptible to cleavage by enzymatic or chemical means. Novel and/or improved heterofunctional binding reagents as well as methods for using the reagents for a variety of in vitro and in vivo applications are also disclosed.

L7 ANSWER 23 OF 26 USPATFULL on STN
AN 96:101466 USPATFULL
TI Directed evolution of novel binding proteins
IN Ladner, Robert C., Ijamsville, MD, United States
Guterman, Sonia K., Belmont, MA, United States
Roberts, Bruce L., Milford, MA, United States
Markland, William, Milford, MA, United States
Ley, Arthur C., Newton, MA, United States
Kent, Rachel B., Boxborough, MA, United States
PA Protein Engineering Corporation, Cambridge, MA, United States (U.S. corporation)
PI US 5571698 19961105
AI US 1993-57667 19930618 (8)
DCD 20100629
RLI Continuation of Ser. No. US 1991-664989, filed on 1 Mar 1991, now patented, Pat. No. US 5223409 which is a continuation-in-part of Ser. No. US 1990-487063, filed on 2 Mar 1990, now abandoned which is a continuation-in-part of Ser. No. US 1988-240160, filed on 2 Sep 1988, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Ulm, John

LREP Cooper, Iver P.
CLMN Number of Claims: 83
ECL Exemplary Claim: 1
DRWN 16 Drawing Figure(s); 16 Drawing Page(s)
LN.CNT 15323
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB In order to obtain a novel binding protein against a chosen target, DNA molecules, each encoding a protein comprising one of a family of similar potential binding domains and a structural signal calling for the display of the protein on the outer surface of a chosen bacterial cell, bacterial spore or phage (genetic package) are introduced into a genetic package. The protein is expressed and the potential binding domain is displayed on the outer surface of the package. The cells or viruses bearing the binding domains which recognize the target molecule are isolated and amplified. The successful binding domains are then characterized. One or more of these successful binding domains is used as a model for the design of a new family of potential binding domains, and the process is repeated until a novel binding domain having a desired affinity for the target molecule is obtained. In one embodiment, the first family of potential binding domains is related to bovine pancreatic trypsin inhibitor, the genetic package is M13 phage, and the protein includes the outer surface transport signal of the M13 gene III protein.

L7 ANSWER 24 OF 26 USPATFULL on STN
AN 96:21019 USPATFULL
TI Totally synthetic affinity reagents
IN Kay, Brian K., Chapel Hill, NC, United States
Fowlkes, Dana M., Chapel Hill, NC, United States
PA The University of North Carolina at Chapel Hill, Chapel Hill, NC, United States (U.S. corporation)
PI US 5498538 19960312
AI US 1993-176500 19931230 (8)
RLI Continuation of Ser. No. US 1993-13416, filed on 1 Feb 1993, now abandoned which is a continuation-in-part of Ser. No. US 1992-854133, filed on 19 Mar 1992, now abandoned which is a continuation of Ser. No. US 1990-480420, filed on 15 Feb 1990, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Walsh, Stephen G.; Assistant Examiner: Ulm, John D.
LREP Pennie & Edmonds
CLMN Number of Claims: 26
ECL Exemplary Claim: 1
DRWN 26 Drawing Figure(s); 21 Drawing Page(s)
LN.CNT 4731
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A novel method for producing novel and/or improved heterofunctional binding fusion proteins termed Totally Synthetic Affinity Reagents (TSARs) is disclosed. TSARs are concatenated heterofunctional proteins, polypeptides or peptides comprising at least two functional regions: a binding domain with affinity for a ligand and a second effector peptide portion that is chemically or biologically active. In one embodiment, the heterofunctional proteins, polypeptides or peptides further comprise a linker peptide portion between the binding domain and the second active peptide portion. The linker peptide can be either susceptible or not susceptible to cleavage by enzymatic or chemical means. Novel and/or improved heterofunctional binding reagents as well as methods for using the reagents for a variety of in vitro and in vivo applications are also disclosed.

L7 ANSWER 25 OF 26 USPATFULL on STN
AN 95:29292 USPATFULL
TI Viruses expressing chimeric binding proteins
IN Ladner, Robert C., Ijamsville, MD, United States
Guterman, Sonia K., Belmont, MA, United States
Roberts, Bruce L., Milford, MA, United States
Markland, William, Milford, MA, United States
Ley, Arthur C., Newton, MA, United States

Kent, Rachel B., Boxborough, MA, United States
PA Protein Engineering Corporation, Cambridge, MA, United States (U.S. corporation)
PI US 5403484 19950404
AI US 1993-9319 19930126 (8)
RLI Division of Ser. No. US 1991-664989, filed on 1 Mar 1991, now patented, Pat. No. US 5223409 which is a continuation-in-part of Ser. No. US 1990-487063, filed on 2 Mar 1990, now abandoned which is a continuation-in-part of Ser. No. US 1988-240160, filed on 2 Sep 1988, now abandoned
PRAI WO 1989-3731 19890901
DT Utility
FS Granted
EXNAM Primary Examiner: Hill, Jr., Robert J.; Assistant Examiner: Ulm, John D.
LREP Cooper, Iver P.
CLMN Number of Claims: 49
ECL Exemplary Claim: 1
DRWN 16 Drawing Figure(s); 16 Drawing Page(s)
LN.CNT 14368
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB In order to obtain a novel binding protein against a chosen target, DNA molecules, each encoding a protein comprising one of a family of similar potential binding domains and a structural signal calling for the display of the protein on the outer surface of a chosen bacterial cell, bacterial spore or phage (genetic package) are introduced into a genetic package. The protein is expressed and the potential binding domain is displayed on the outer surface of the package. The cells or viruses bearing the binding domains which recognize the target molecule are isolated and amplified. The successful binding domains are then characterized. One or more of these successful binding domains is used as a model for the design of a new family of potential binding domains, and the process is repeated until a novel binding domain having a desired affinity for the target molecule is obtained. In one embodiment, the first family of potential binding domains is related to bovine pancreatic trypsin inhibitor, the genetic package is M13 phage, and the protein includes the outer surface transport signal of the M13 gene III protein.

L7 ANSWER 26 OF 26 USPATFULL on STN
AN 93:52487 USPATFULL
TI Directed evolution of novel binding proteins
IN Ladner, Robert C., Ijamsville, MD, United States
Guterman, Sonia K., Belmont, MA, United States
Roberts, Bruce L., Milford, MA, United States
Markland, William, Milford, MA, United States
Ley, Arthur C., Newton, MA, United States
Kent, Rachel B., Boxborough, MA, United States
PA Protein Engineering Corp., Cambridge, MA, United States (U.S. corporation)
PI US 5223409 19930629
AI US 1991-664989 19910301 (7)
RLI Continuation-in-part of Ser. No. US 1990-487063, filed on 2 Mar 1990, now abandoned And a continuation-in-part of Ser. No. US 1988-240160, filed on 2 Sep 1988, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Hill, Jr., Robert J.; Assistant Examiner: Ulm, John D.
LREP Cooper, Iver P.
CLMN Number of Claims: 66
ECL Exemplary Claim: 1
DRWN 16 Drawing Figure(s); 16 Drawing Page(s)
LN.CNT 15410
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB In order to obtain a novel binding protein against a chosen target, DNA molecules, each encoding a protein comprising one of a family of similar potential binding domains and a structural signal calling for the display of the protein on the outer surface of a chosen bacterial cell, bacterial spore or phage (genetic package) are introduced into a genetic

package. The protein is expressed and the potential binding domain is displayed on the outer surface of the package. The cells or viruses bearing the binding domains which recognize the target molecule are isolated and amplified. The successful binding domains are then characterized. One or more of these successful binding domains is used as a model for the design of a new family of potential binding domains, and the process is repeated until a novel binding domain having a desired affinity for the target molecule is obtained. In one embodiment, the first family of potential binding domains is related to bovine pancreatic trypsin inhibitor, the genetic package is M13 phage, and the protein includes the outer surface transport signal of the M13 gene III protein.